

Battery Bridge Fabrication



AI Overview

Battery bridges are fabricated by combining weldable conductive contacts with insulating materials, allowing controlled activation through welding to close an air gap.

Structure and Components

A typical battery bridge consists of two electrically conductive contact elements separated by an insulator and a predefined air gap. The contact elements are made from weldable materials, which allow the bridge to transition from an inactive state (open circuit) to an active state (closed circuit) when the contacts are welded together. The insulator ensures that the contacts remain electrically isolated until activation.

Fabrication Process

- **Material Selection:** Choose high-purity, weldable metals for the contacts and a durable insulating material that can withstand the welding process and operational conditions.
- **Precision Forming:** The contacts are shaped to exact dimensions to maintain the air gap and ensure reliable welding. Techniques such as stamping, laser cutting, or micro-machining may be used.
- **Assembly:** The contacts are positioned with the insulator in place, maintaining the predefined air gap. This assembly can be integrated into the battery or electronic device during manufacturing.
- **Activation Method:** The battery bridge is activated by welding the two contacts together, which closes the air gap and establishes electrical conductivity. This meth...

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Lithium-ion batteries (LIBs) need to be manufactured at speed and scale for their use in electric vehicles and devices. However, LIB

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US20170222338A1

A battery bridge for an electronic device, preferably for an electronic implant, has an electrically conductive first contact element, an

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The technical storage or access that is used exclusively for statistical purposes. The technical storage or access that is used

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Fabrication of metallic air bridges using multiple-dose electron beam ...

The techniques of fabricating metallic air bridges using different resists in a one-step electron beam lithography are

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Innovative solid-state battery fabrication and interface engineering ...

Abstract Lithium-ion solid-state batteries (SSBs) play a key role in the next-generation battery technology. This work

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